

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 1-26 remain in the application. Claim 1 has been amended herein. Specifically, the claimed shell mold is claimed to be dimensionally stable and the mold cavity has defined surface shapes on both sides. Support for the amendments is provided in the Substitute Specification at paragraphs 0034 and 0036.

Claims 1-4, 6-9, 11 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 6,344,160 to Holtzberg (hereinafter Holtzberg) in view of U.S. 2002/0113340 to Reetz (hereinafter Reetz), further in view of U.S. 4,024,090 to von Bonin (hereinafter von Bonin) and U.S. 2004/0164442 to Olsson (hereinafter Olsson). For the following reasons, the Examiner's rejection is traversed.

Even if the references were combined in the manner proposed, additional teachings would be required to show all features of the amended independent claim 1.

Holtzberg is directed to a method for molding composite structural plastic components wherein such components are cast from a polymerizable thermoset or thermoplastic composition in a conventional metalcasting mold. If using a thermoplastic such as nylon 6, a preferred method of use involves the addition and combination of fiber reinforcements while the nylon 6 resin is being manufactured. One method of liquefying solid forms of caprolactam requires melting of the

monomer into a liquid and then using a catalyst and activator to complete chemical transition into a flowable thermoplastic resin and ultimately a solidified part.

Reetz is directed to a two stage pressing process in which hot gas is injected during the first stage and the press charge is precompressed. The press charge is then placed in a second consolidation press where the hot gas is no longer injected and it is consolidated and cooled.

van Bonin is directed to improvement of mold release properties of a molded polyurethane foam by including in the foamable reaction mixture to be molded a reaction product of a polysiloxane and a monocarboxylic acid or polycarboxylic acid.

Olsson is directed to a method of producing a multilayer body by coalescence, characterised in that the method comprises the steps of a) filling, a pre-compacting mould with a start material in the form of powder, pellets, grains and the like, b) pre-compacting the start material at least once and c) compressing the material in a compression mould by at least one stroke, where a striking unit emits enough kinetic energy to form the body when striking the material inserted in the compression mould, causing coalescence of the material, and d) at least one further material being inserted into the mould in the form of powder, pellets, grains and the like.

The proposed combination of references fails to teach utilization of a tool with a lower and an upper dimensionally stable shell mold wherein both shell molds are designed as thin-walled and metallic. Specifically, the molds taught by Holtzberg are sand grains adhered to each other. van Bonin teaches use of molds that are aluminum and galvanized nickel, but does not teach anything regarding the wall thickness of the molds.

The proposed combination of references also fails to teach tempering means

for the controllable heating and cooling which are directly attached to both shell molds. Specifically, the Abstract of Reetz only teaches the injection of hot gasses into a press.

Further, the proposed combination of references does not teach or suggest a method step of closing shell molds and subsequently evacuating and in doing so pressing together with a reduction of the distance between the shell molds. Specifically, Reetz only teaches closing molds under pressure. The further references fail to cure the deficiencies in Reetz.

Still further, the proposed combination of references fails to teach a step of "holding at a temperature (T_s) for the consolidation and flowing of the thermoplastic material under pressure (dp) with a further pressing together of the shell molds (ds_2) up to the contour filling flowing out."

For the reasons stated above, reconsideration and withdrawal of the rejection of independent claim 1 under 35 U.S.C. §103(a) is respectfully requested.

Claims 2-4, 6-9, 11 and 15 depend directly or indirectly from claim 1 and are believed to be allowable at least for the reasons stated above. Reconsideration and withdrawal of the rejection of claims 2-4, 6-9, 11 and 15 under 35 U.S.C. §103(a) is respectfully requested.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 2001/0044007 to Valyi (hereinafter Valyi).

Valyi is directed to a process of placing a film over a mold cavity and depositing molten plastic thereon to form a combination of a film with molten plastic thereon. The film-molten plastic combination is then formed in said mold cavity into a

molded article in the shape of the mold cavity.

Claim 5 depends directly from claim 1. Claim 1 is believed to be allowable for the reasons stated above. Valyi does not cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. §103(a) is respectfully requested.

Claims 10 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 2002/0017744 to Lochner (hereinafter Lochner).

Lochner is directed to an apparatus for connecting objects by means of a plastically deformable connecting body that includes a shaping punch (4), a flow-restricting wall (5) closely surrounding the shaping punch and a gas supply lead (6) through which a gaseous medium can be introduced into a gap between the shaping punch (4) and the flow-restricting means (5).

Claims 10 and 12 depend directly from claim 1. Claim 1 is believed to be allowable for the reasons stated above. Lochner does not cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claims 10 and 12 under 35 U.S.C. §103(a) is respectfully requested.

Claims 13-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 5,591,385 to Arai (hereinafter Arai).

Arai is directed to a plastic molding method wherein the supply flow rate of a coolant, to a mold is maintained to shorten the molding cycle and to improve the productivity in continuous molding. The temperature distribution and pressure distribution in the mold are measured, thereby realizing determination as to whether

a molded article is defective or not in the molding and cooling processes.

Claims 13-14 depend directly from claim 1. Claim 1 is believed to be allowable for the reasons stated above. Arai does not cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claims 13-14 under 35 U.S.C. §103(a) is respectfully requested.

Claims 16-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 5,439,639 to Gallagher (hereinafter Gallagher).

Gallagher is directed to an instrument trim panel that includes a shell made from a flexible plastic material. A textured section is circumscribed by a simulated seam. A closed cell plastic block is press fitted behind the textured section. An air pocket is interposed between the block and textured section. A rigid substrate is molded and cured behind the shell and block.

Claims 16-17 depend directly from claim 1. Claim 1 is believed to be allowable for the reasons stated above. Gallagher does not cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claims 16-17 under 35 U.S.C. §103(a) is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 2003/0104743 to Weberg (hereinafter Weberg).

Weberg is directed to a molding composition including reactive high-volatility monomeric groups, such as acrylics, at least one primary thermal initiator and at least one secondary thermal initiator is described.

Claim 18 depends directly from claim 1. Claim 1 is believed to be allowable

for the reasons stated above. Weberg does not cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claims 18 under 35 U.S.C. §103(a) is respectfully requested.

Claims 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Holtzberg, Reetz, Williams and van Bonin, in further view of U.S. 2001/0151233 to Renard (hereinafter Renard) or U.S. 2001/0015513 to Shaftingen (hereinafter Shaftingen).

Renard is directed to a method of making a subassembly and to a board made by covering the subassembly with a web of resin-coated fibers.

Shaftingen is directed to a process for manufacturing hollow plastic bodies, especially motor-vehicle fuel tanks, from an extruded parison of closed cross section, in which at least one cut is made in the parison which is then formed by molding.

Claims 19-20 depend directly from claim 1. Claim 1 is believed to be allowable for the reasons stated above. Neither Renard nor Shaftingen cure the deficiencies in the other cited references. Reconsideration and withdrawal of the rejection of claims 19-20 under 35 U.S.C. §103(a) is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. WLL-16859.

Respectfully submitted,

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